HaiLin Controls

Elegance

SMT-700 User manual

Energy

Ver 3.0. 0807

Congratulations on the purchase of your new Thermostat!

Your new air conditioning system thermostat has been built using the best components and design philosophy currently available. As a result, if properly installed your Smart Temp SMT-700 thermostat will provide you with many years of trouble free comfort.

The wall thermostat has been designed by Smart Temp Australia P/L to be an attractive, highly reliable and an easy to use thermostat. By taking the time to read and understand these simple instructions you can take advantage of many of the capabilities that are offered in this high quality product.

Important – READ THIS FIRST

The SMT-700 thermostat has been designed to be a very flexible & powerful Air Conditioning controller. It has many industry leading and innovative functions and capabilities.

This manual provides information on all capabilities offered by this thermostat, even those function that have not been required on your installation. Therefore, please use the index provided and read the sections of this manual only relevant to your installation and disregard functions or features that not applicable.

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Introduction

Your air conditioning system has been fitted with an advanced and energy efficient thermostat controller. The Smart Temp thermostat model SMT-700 is able to manage your comfort levels in a number of ways. Your installer will have programmed your SMT-700 thermostat to specifically fit your needs, the requirements of the building and the air conditioning equipment connected to it.

If after reviewing this manual there are features or functions that you would consider desirable and that are not active on your thermostat, please contact your installer or another authorised Smart Temp service agent for advice on adding these functions.

To assist with the clarity of the manual, it has been divided into the following 5 main sections.

- Residential Programmable Mode.
  This section of the manual explains how to use the SMT-700 when installed in a home or apartment. It contains information on how to program the thermostat, use zone control (if installed) and get the most from your air conditioning system

- Commercial Programmable Mode.
  When using the SMT-700 thermostat in a commercial building special functions are available. Capabilities such as after-hours run timers, outside air economy control and other commercial air conditioning management capabilities are detailed in this part of the user manual.

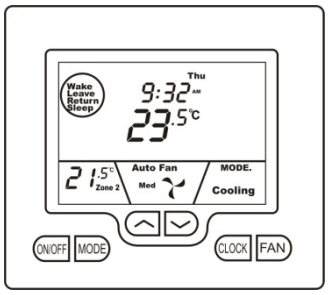
- Manual Mode (can be used in either residential or commercial buildings).
  Often programming or fully automatic air conditioning control is not required. In these circumstances the installer will have set the SMT-700 thermostat for manual mode. This mode is the easiest mode to use the air conditioning system in, but it will not automatically turn you're A/C system off (or down) at the end of the day.

- Common Functions.
  This part of the user manual explains all the functions and capability that will be available to you regardless of what mode the thermostat has been put into by the installer

- Advanced functions.
  Your air conditioning system has some very advanced control and energy management capabilities. This part of the manual will explain these capabilities so you are able to better understand why your air conditioning system and SMT-700 thermostat is behaving the way it is.

- Glossary.
  This section of this manual will provide you with additional details on the function of buttons, operational modes and LCD indicators etc.

Residential Programmable Mode



Your residential programmable thermostat is able to be programmed by you, to automatically control the desired home heating and cooling temperatures.

4 times per day, 7 days per week a separate heating and/or cooling temperature can be programmed into the thermostat. When the programmed time arrives your thermostat will automatically use the programmed desired heating and cooling temperature for that time to automatically control your home air conditioning system. These programmed temperatures will remain active until the next pre-programmed event arrives later that day (or first event next day) or until you override these temperatures manually.

The Buttons Explained

On/Off – (Zone Select if function installed)
Quickly press the On/Off button to turn the SMT-700 thermostat On. To turn the SMT-700 thermostat OFF, **press & hold** this button for 2 seconds until the word "OFF" is displayed in the LCD. If the Zoning function is enabled (see Zone Control on page 14), tap the On/Off button to cycle between Zone 1 only, Zone 2 only then both zones.

Mode
Tap this button to cycle the SMT-700 thermostat through the available modes, Heat only, Cool only, Fan Only (ventilation mode) or Auto season change over mode. See page 12 for more information on Modes.

Up (▲)
Use this button to increase the desired room temperature for the heating or cooling modes, or increase a "value" in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new higher temperature.

Down (▼)
Use this button to decrease the desired room temperature for heating or cooling modes, or decrease a "value" in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new lower temperature.

Clock
Tap the clock button to begin setting the clock. Press and hold the clock button for 2 seconds to begin programming your daily events.

Fan
Single Speed Fan -. Tap this button to cycle between Continuous fan (Fan ON) and Auto Fan.
Three Speed Fan – Tap this button to cycle between Low, Medium, High & Auto Fan speeds.
Press and hold this button for 5 seconds to toggle between Continuous fan (Fan ON) and Auto Fan.

Setting The Clock

Your SMT-700 thermostat is fitted with a real time clock. This clock is used by the SMT-700 thermostat for the programming functions described below. It is essential that the clock time and day are set accurately if you require your programmed events to start on time.

To set the clock, tap the clock button. The LCD will show the Hours Digit flashing. Use the up (▲) or down (▼) button to adjust the hours to the correct time (note the AM / PM symbol) Tap the clock button again and now the minute's digits will flash. Adjust this value using the up (▲) or down (▼) button to show the correct minute. Tap the Clock button again and now the week day flashes, again use the up (▲) or down (▼) button to set this value to the correct day of the week. Tap the clock button again to exit the clock set function. Your clock is now set.

Programming Your 4 Daily Events

The SMT-700 is an individual 7-day programmable thermostat. For each day of the week you are able to have 4 time schedules or programmed events. For clarity these events are conveniently named "Wake", "Leave", "Return" & "Sleep".

The "Wake" event may be used to set the temperatures of your home that you would like to wake up to.
The "Leave" event is typically used to set the temperatures you wish your home to maintain whilst you are away at work.
The "Return" event is often used to set the temperature you wish to be greeted with upon returning home at the end of the day.
The "Sleep" event can be used to set a comfortable and energy efficient temperature while you sleep.

You are permitted to have every event occur at a different time of the day and set a different heating and cooling set temperature for each of the 4 events. You are able to set a heating set point temperature between Heating OFF and 38 degrees Celsius. You are able to set a cooling temperature between zero degrees Celsius and Cooling OFF provided the installer has not set control limits.

Remember, each of the 4 event programmed set temperatures will hold the home temperature until the next scheduled event time arrives where it's set temperature will be used. So:-

The "Wake" set temperature will be the temperature of your home until the "Leave" time arrives, then
The "Leave" set temperature will be the temperature of your home until the "Return" time arrives, then
The "Return" set temperature will be the temperature of your home until the "Sleep" time arrives, then
The "Sleep" set temperature will be the temperature of your home until the next days "Start" time arrives.

Programming your SMT-700 thermostat or setting these daily events is no more complicated than setting the clock as described previously. The same buttons are used in the same sequence, using the Clock button to advance to the next step, and the up (▲) or down (▼) buttons to make changes. The LCD shows only relevant information for the event being adjusted thus reducing possible errors that may be caused by having confusing information displayed on the LCD.

To enter the program mode, press and hold the Clock button for 5 seconds. The display will change to show the Day "Monday" flashing. Using the up (▲) or down (▼) buttons adjust the day to the day you wish to start programming an event or to the day you wish to edit an existing event.

Tap the clock button to advance to the next step, The LCD will show the word "Wake" with the hour's digit flashes. Using the up (▲) or down (▼) buttons adjust the hours to the time you wish the "Wake" event to commence for the currently selected day.

Tap the Clock button again, now the minute's digits flashes. Using the up (▲) or down (▼) buttons set the minute to the time you wish the "Wake" event to commence.

Tap the Clock button again. If the SMT-700 thermostat has been set by the installer to control the optional climate zoning AND if the option to program the zones has been set by the installer, you will now have the ability to set which zones you require to be ON during the wake event. Using the up (▲) or down (▼) buttons set the zones you wish to be ON for the "Wake" event.

If the installer has set to the Program Zone option to "OFF" this step is skipped by the SMT-700 thermostat during the programming sequence.

Tap the Clock button again, now the word "Heat" (if heating mode is enabled by the installer) and a temperature value is shown in the LCD, using the up (▲) or down (▼) buttons set the desired Heating temperature for the "Wake" event. Tap the Clock button again, now the word "Cool" (if cooling mode is enabled by the installer) and a temperature value is shown in the LCD, using the up (▲) or down (▼) buttons set the desired Cooling temperature for the Wake event.

NOTE: there must be a minimum of 1 deg C difference between heating and cooling set points. The heating temperature must be at least 1 deg C lower than the cooling set temperature. If you set the heating or cooling set point closer than this minimum value, the SMT-700 thermostat will automatically "push" the other set point away to maintain this minimum value.

Tap the Clock button again and the Day previously selected will be shown along with the word "Leave". The Hour digit will flash indicating that this value can now be adjusted with the up (▲) or down (▼) buttons. Set the hour to the time you wish the "Leave" event to commence.

Continue to tap the Clock button to advance you through the "Leave" "Minute", then "Leave" Zone (if enabled) "Leave" Heating (if enabled) and "Leave" cooling (if enabled) temperatures. Again by continuing to tap the Clock button you will advance to through the "Return" program and then "Sleep" programs for the day you have chosen to program.

Taping the Clock button again the LCD will now show the word "COPY".

You now have TWO options

Option 1 - Continue programming as above.
Simply continue to tap the Clock Button as you have been to advance to the next day, "Tuesday" in this example "Wake", "Leave", "Return", "Sleep" then Wednesday, Thursday etc, following the same simple steps previously explained…. OR

Option 2 - Copy Program – To copy the values you have just set to other days of the week.
Rather than taping the Clock button now, tap the up (▲) or down (▼) buttons to "TAG" each additional day you wish to copy the currently set days program to. When you have finished "Tagging" the days you desire press the Clock button to initiate the copy process. The word "Copy" will flash briefly to confirm the copy process and your current days values will be copied to the days selected. Normal programming will resume at the next day to be programmed.

Programming the Zones (If Enabled)

As briefly touched upon in the above description, your SMT-700 thermostat has the useful feature of being able to automatically change the Active Zones at pre set times (if enabled by the installer). For example, this feature permits the SMT-700 thermostat to automatically switch the bedroom zone ON when the "Sleep" event starts, or to automatically switch the unoccupied upstairs zone OFF during the day. This has the benefit of reducing energy costs while still maintaining a comfortable living environment in the occupied areas of your home. Naturally, these settings can be overridden at any time by tapping the on/off button to manually select active zones as described on page 14 of this manual.

Temporary Temperature Override

To make your SMT-700 thermostat even more capable and flexible, it has been provided with a temporary program override function. This permits you to temporarily change your event temperatures, just for today and only until the next programmed event starts. For example, you may have guests visiting that would like it a little warmer or cooler than you would normally have the thermostat set, or you may find yourself at home when normally you would be away from your home, possibly a sick day for example.

Simply press and hold the up (▲) or down (▼) buttons for 3 seconds. The SMT-700 thermostat display will change to show the word "SET", and the active set point for the current mode. (Heating, Cooling or Auto modes) as you hold the up (▲) or down (▼) buttons the current set point will change.

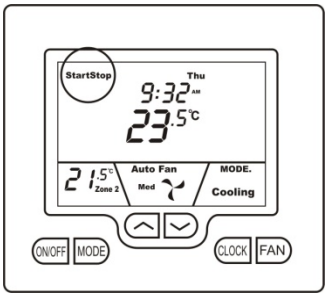
If Auto mode is selected, after adjusting the Heat set point wait without touching a button for 3 seconds for the SMT-700 thermostat display to change to show "Cool" and "SET" and your current set cooling temperature. If desired change this value with the up (▲) or down (▼) buttons. Again wait for 3 seconds to exit the temporary overridden programmed mode. The LCD will now show "Override" and your new temporary setting will be in use until the next programmed event change occurs.

Should you need to cancel a temporary override, simply press and hold both the up (▲) **AND** (▼) buttons for a few seconds. The word "Override" will disappear from the LCD and your pre-programmed settings will be restored.

Default Program

	Wake			Leave			Return			Sleep		
Monday	7:00am	Heating	18	8:30am	Heating	10	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30
Tuesday	7:00am	Heating	18	8:30am	Heating	10	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30
Wednesday	7:00am	Heating	18	8:30am	Heating	10	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30
Thursday	7:00am	Heating	18	8:30am	Heating	10	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30
Friday	7:00am	Heating	18	8:30am	Heating	10	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30
Saturday	8:00am	Heating	18	8:30am	Heating	18	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30
Sunday	8:00am	Heating	18	8:30am	Heating	18	5:00pm	Heating	20	10:00pm	Heating	12
		Cooling	25		Cooling	30		Cooling	25		Cooling	30

Commercial Programmable Mode



Your commercial programmable thermostat is able to be programmed by you, to automatically control the desired office heating and cooling temperatures.

2 times per day, 7 days per week a separate heating and/or cooling temperature can be programmed by you into the thermostat. When the programmed time arrives your thermostat will automatically use the programmed desired heating and cooling temperature to automatically control your office air conditioning system. These programmed temperatures will remain active until the next pre-programmed time arrives or until you override these temperatures manually or until you activate the 2 hour after hour run timer.

The Buttons Explained

On/Off – After hours Override (or Zone Select if function is installed)
Quickly press the On/Off button to turn the SMT-700 thermostat On where it will run your temperature control program. To turn the SMT-700 thermostat OFF, **press & hold** this button for 2 seconds until the word "OFF" is displayed in the LCD.
If zoning is enabled - Tap the On/Off button to cycle between Zone 1 only, Zone 2 only then both zones.
If zoning is disabled - Tap this button to toggle the 2 hours after hours run timer on or off.

Mode
Tap this button to cycle the SMT-700 thermostat through the available modes, Heat only, Cool only, Fan Only (ventilation mode) or Auto season change over mode. See page 12 of this manual for more information on Modes.

Up (▲)
Use this button to increase the desired room temperature for the heating or cooling modes, or increase a "value" in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new higher set temperature.

Down (▼)
Use this button to decrease the desired room temperature for heating or cooling modes, or decrease a "value" in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new lower set temperature.

Clock
Tap the clock button to begin setting the clock. Press and hold the clock button for 2 seconds to begin programming your daily events.

Fan
Single Speed Fan -. Tap this button to cycle between Continuous Fan (Fan ON) and Auto Fan.
Three Speed Fan – Tap this button to cycle between Low, Medium, High & Auto Fan speeds.
Press and hold this button for 5 seconds to toggle between Continuous Fan (Fan ON) and Auto Fan.

Setting The Clock

Your SMT-700 thermostat is fitted with a real time clock. This clock is used by the SMT-700 thermostat for the programming functions described below. It is essential that the clock time and day are set accurately if you require your programmed events to start on time.

To set the clock, tap the clock button. The LCD will show the Hours Digit flashing. Use the up (▲) or down (▼) button to adjust the hours to the correct time (note the AM / PM symbol) Tap the clock button again and now the minute's digits will flash. Adjust this value using the up (▲) or down (▼) button to show the correct minute. Tap the Clock button again and now the week day flashes, again use up (▲) or down (▼) button to set this value to the correct day of the week. Tap the clock button again to exit the clock set function.

Programming Your 2 Daily Events

The SMT-700 thermostat is an individual 7-day programmable thermostat. For each day of the week you are able to have 2 time schedules or programmed events occur. For clarity these events are conveniently named "Start" and "Stop".
The "Start" event is used to set the time you wish your office to start at the beginning of the day. You can program your desired heating and cooling temperatures that you wish your office to be when the start event begins.

The "Stop" event is used to set the temperatures you wish office to be at the end of the working day. You are able to program your heating and or cooling to "OFF" or simply set a more economical temperature than your start program to prevent your office over-heating or becoming to cool at during the night.

You are permitted to have the Start and Stop event occur at a different time of the day and set a different heating and cooling desired set temperature for each of the 2 events. You are able to set a heating set point temperature between Heating OFF and 38 degrees Celsius. You are able to set a cooling temperature between zero degrees Celsius and Cooling OFF.

Programming your SMT-700 thermostat or setting these daily events is no more complicated than setting the clock as described previously. The same buttons are used in the same sequence, using the Clock button to advance to the next step, and the up (▲) or down (▼) buttons to make changes. The LCD shows only relevant information for the event being adjusted thus reducing possible errors that may be caused by having confusing information displayed on the LCD.
This makes the programming of the SMT-700 thermostat a simple and logical process.

To enter the program mode, press and hold the Clock button for 5 seconds. The display will change and the Day "Monday" will flash. Using the up (▲) or down (▼) buttons adjust the day to the day you wish to start programming or to the day you wish to edit an existing program.

Tap the clock button to advance to the next step, The LCD will show the word "Start" with the hour's digit flashing. Using the up (▲) or down (▼) buttons to adjust the hours to the time you wish the "Start" event to commence for the day selected.

Tap the Clock button again, now the minute's digits flashes. Using the up (▲) or down (▼) buttons set the minute to the time you wish the "Start" event to commence.

Tap the Clock button again. If the SMT-700 thermostat has been set by the installer to control the optional climate zoning AND if the option to program the zones has been set by the installer, you will now have the ability to set which zones you require to be ON during the "Start" event. Using the up (▲) or down (▼) buttons set the zones you wish to be ON for the "Start" event.

If the installer has set to the Program Zone option "OFF" this step is skipped by the SMT-700 thermostat during the programming sequence.

Tap the Clock button again, now the word "Heat" (if heating mode is enabled by the installer) and a temperature value is shown in the LCD, using the up (▲) or down (▼) buttons set the desired Heating temperature for the "Start" event. Tap the Clock button again, now the word "Cool" (if cooling mode is enabled by the installer) and a temperature value is shown in the LCD, using the up (▲) or down (▼) buttons set the desired Cooling temperature for the "Start" event.

NOTE: there must be a minimum of 1 deg C difference between heating and cooling set points. The heating temperature must be at least 1 deg C lower than the cooling set temperature. If you set the heating or cooling set point closer than this minimum value, the SMT-700 thermostat will automatically "push" the other set point away to maintain this minimum value.

Tap the Clock button again and the day previously selected will be shown along with the word "Stop". The Hour digit will flash indicating that this value can now be adjusted with the up (▲) or down (▼) buttons. Set the hour to the time you wish the "STOP" event to commence.

Continue to tap the Clock button to advance you through the "Stop" "Minute", then "Stop" Zone (if enabled) "Stop" Heating (if enabled) and "Stop" cooling (if enabled) temperatures.

Taping the Clock button again the LCD will show the word "COPY".

You now have TWO options

Option 1 - Continue Programming as above.
Simply continue to tap the Clock Button as you have been to advance to the next day, "Tuesday" in this example "Start" & "Stop", then Wednesday, Thursday etc, following the same simple steps previously explained…. OR

Option 2 - Copy Program – To copy the values you have just set to other days of the week.
Rather than taping the Clock button now, tap the up (▲) or down (▼) buttons to "TAG" each additional day you wish to copy the currently set days program to. When you have finished "Tagging" the days you desire then press the Clock button to initiate the copy process. The word "Copy" will flash briefly to confirm the copy process and your current days values will be copied to the days selected. Normal programming will resume at the next day to be programmed.

☛ Tip.
On days when the office will be unoccupied, it is a wise idea to set the "START" and "STOP" programs to occur at the same time of day, say 8:00am for example. This way if "FAN ON" mode has been selected the fan will not start on those days where the office is un-occupied.

After Hours Run Timer

Note - if zoning has been used in your office, the after hours run timer function is automatically disabled.

An extremely useful feature of your SMT-700 thermostat is it's integrated after hours run timer function. This timer is useful when you find yourself working outside of the normal office hours. Tapping the On/Off button will initiate the after hours run timer function where the SMT-700 thermostat will then temporarily substitute that days "Stop" program temperatures with that days "Start" program temperatures but only for a timed two hour period. While this after hours run timer is operating the word "Timer" will flash on the LCD.

This function makes it extremely simple to return the office temperature to a comfortable working level without the fear of forgetting to turn the air conditioning system off at the end of your day.

☛ **Tip.**

To take advantage of the after hour timer function on days when the office is normally not open, program the "Start" program at 8:00am (for example) with your normal office occupied heating and cooling set temperatures and set the "Stop" program for the exact same time, 8:00 am in this example and the set temperatures to your normal "Stop" program values, Off for example. The SMT-700 will move straight to the "Stop" program and not run the air conditioning system but will have a valid "Start" temperature in memory ready for use by the afterhours run timer function.

For an office that is NOT open on a weekend an example of a Saturday and Sunday program is given below.

Day	*Time*	*Suggested Heat set point*	*Suggested Cool set point*
Saturday Start	8:00 am	Heat set = 22c	Cool Set = 25c
Saturday Stop	8:00 am	Heat Set = OFF	Cool Set = OFF
Sunday Start	8:00 am	Heat set = 22c	Cool Set = 25c
Sunday Stop	8:00 am	Heat Set = OFF	Cool Set = OFF

Temporary Temperature Override

To make your SMT-700 thermostat even more capable and flexible, it has been provided with a temporary program override function. This permits you to temporarily change your programmed event temperatures, just for today and only until the next programmed event starts.

Simply press and hold the up (▲) or down (▼) buttons for 3 seconds. The SMT-700 thermostat display will change to show the word "SET", and the active set point for the current mode. (heating, cooling or auto modes) as you hold the up (▲) or down (▼) buttons the current set point will change.

If Auto mode is selected, after adjusting the Heat set point wait without touching a button for 3 seconds for the SMT-700 thermostat display to change to show "Cool" and "SET" and your current set cooling temperature. If desired change this value with the up (▲) or down (▼) buttons. Again wait for 3 seconds to exit the temporary overridden programmed mode. The LCD will now show "Override" and your new temporary setting will be in use until the next programmed event change occurs.

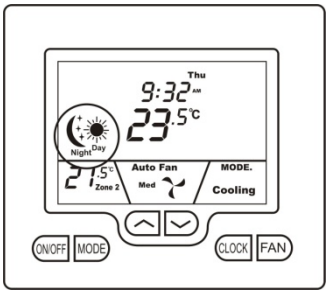
Should you need to cancel a temporary override, simply press and hold the up (▲) **AND** (▼) buttons for a few seconds. The word "Override" will disappear from the LCD and your pre-programmed settings will be restored.

Programming the Zones (if enabled)

Note - if zoning has been used in your office, the afterhours run timer function is disabled.

As briefly touched upon in the above description, your SMT-700 thermostat has the useful feature of being able to automatically change the Active Zones at pre set times (if enabled by the installer). For example, this feature permits the SMT-700 thermostat to automatically switch to the second zone ON when the Start event starts, or to automatically switch the unoccupied boardroom zone OFF during the day. This has the benefit of reducing energy costs while still maintaining a comfortable environment in the occupied areas of your office. Naturally, these settings can be overridden at any time by tapping the on/off button to manually select active zones as described on page 14 of this manual.

Manual Mode



Quite often automatic time clock control of your air conditioning system is not required. In these instances your installer will have set your SMT-700 thermostat to manual mode.

Manual mode provides the easiest form of climate control for your home or office. Simply turn the SMT-700 thermostat on or off as required and set your desired temperatures. These set temperatures will then remain active until you decide to set a new value.

The Buttons Explained

On/Off (or Zone Select if function is installed)
Quickly press the On/Off button to turn the SMT-700 thermostat On. To turn the SMT-700 thermostat OFF, **press & hold** this button for 2 seconds until the word "OFF" is displayed in the LCD. Tap the On/Off button to cycle between Zone 1 only, Zone 2 only then both zones if zoning is enabled.

Mode
Tap this button to cycle the SMT-700 thermostat through the available modes, Heat only, Cool only, Fan Only (ventilation mode) or Auto season change over mode. See page 12 of this manual for more information on Modes.

Up (▲)
Use this button to increase the desired room temperature for the heating or cooling modes, or increase a "value" in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new higher set temperature.

Down (▼)
Use this button to decrease the desired room temperature for heating or cooling modes, or decrease a "value" in programming modes. Also used to force override the pre-programmed temperatures and temporarily replace them with a new lower set temperature.

Clock
Tap the clock button to select day or night mode (if enabled). Press and hold the clock button for 2 seconds to set your SMT-700 clock.

Fan
Single Speed Fan -. Tap this button to cycle between Continuous fan (Fan ON) and Auto Fan.
Three Speed Fan – Tap this button to cycle between Low, Medium, High & Auto Fan speeds.
Press and hold this button for 5 seconds to toggle between Continuous fan (Fan ON) and Auto Fan.

Setting The Clock – Manual Mode

Your SMT-700 thermostat is fitted with a real time clock. This clock is simply provided to display the current day and time. It has NO functional control for the thermostat at all. To set the clock, Press & Hold the clock button for 5 seconds. The LCD will show the Hours Digit flashing. Use the up (▲) or down (▼) button to adjust the hours to the correct time (note the AM / PM symbol) Tap the clock button and now the minutes digits will flash. Adjust this value using the up (▲) or down (▼) button to show the correct minute. Tap the Clock button again and now the weekday flashes, again use up (▲) or down (▼) button to set this value to the correct day of the week. Tap the clock button again to exit the clock set function.

Day / Night Set points (if Active)

The SMT-700 thermostat has either a single adjustable set temperature or a separate Day heating & cooling set temperature and Night heating & cooling set temperature. If active, switching between Day & Night Modes is easily achieved by taping the clock button. The Day heating and cooling set points are active when the "SUN" symbol is shown on the LCD. The Night heating and cooling set points are active when the "Stars & Moon" symbol is shown on the LCD

To adjust the heating and cooling set points first select the day or night mode (if active) by tapping the clock button. Press and hold the up (▲) or down (▼) buttons for a few seconds, the LCD will change and show the word "SET" and the current mode (heating, cooling or auto) set temperature, press the up (▲) or down (▼) to adjust this value to the desired set temperature. If Auto mode is selected once the heating set point is as desired wait a few seconds without touching a button and the thermostat display will change to show the word "SET" and your COOLING set point will be displayed. Again, using the up (▲) or down (▼) button adjust your cooling set point to your desired value. After a few seconds the thermostat display will return to normal and your new set temperatures will take effect.

Timer Mode

In some applications, the SMT-700 thermostat "Auto OFF" timer feature may have been activated by the installer. When this function has been activated the word(s) "TIMER" or "TIMER OFF" will appear in the LCD. When active, the SMT-700 thermostat will automatically turn off after an installed / owner set pre programmed duration of time.

This function is ideal for use in training or interview rooms for example, where the room is not often used and where you want to ensure the air conditioning system is not left running for extended periods when the room is unoccupied.

To provide warning of the pending shutting down of the A/C system, one hour before the A/C system is about to turn off, the words “TIMER” will flash in the LCD to provide you with ample warning. Once the time period has expired the SMT-700 thermostat automatically turns the air conditioning system off.
If required pressing the On/Off button will reset the countdown timer and the heating or cooling will restart for the installer set period of time.

Should you wish you can turn the SMT-700 thermostat off at any time by pressing and holding the On/Off button for 2 seconds.

Common Functions

Selecting Heating, Cooling and Auto Modes.

Your SMT-700 thermostat is able to control the mode of your air conditioning system in a number of ways. Using the Mode button you are able to select your desired air condition mode. With each tap of the mode button the SMT-700 thermostat will cycle through Heating only mode, Cooling Only mode, Auto mode and Fan only (ventilation) modes.
These modes are described in more detail below.

Please Note: To suit your air conditioning system type, either the Heating or Cooling function may have been disabled.

Heat Only Mode - The SMT-700 thermostat will turn on the Heating when the room temperature falls below the Heat set point temperature by 0.5 deg Celsius. In Heat only mode the SMT-700 thermostat will NOT bring on the Cooling regardless of the room temperature and the Cooling Set point temperature. In Heat only mode, only the word “Heat” will be displayed in the LCD. When your air conditioning system is heating, the word “Heat” in the LCD will change to the word “Heating”.
If the word “Heat” is flashing in the LCD the SMT-700 is performing a safety anti-cycle delay prior to restating the heating.

Cool Only Mode - The SMT-700 thermostat will turn on the Cooling when the room temperature rises above the Cool set point temperature by 0.5 deg Celsius. In Cool only mode the SMT-700 thermostat will NOT bring on the Heating regardless of the room temperature and Heating set point temperature. In Cool only mode, only the word “Cool” will be displayed in the LCD. When your air conditioning system is cooling, the word “Cool” in the LCD will change to the word “Cooling”.
If the word “Cool” is flashing in the LCD the SMT-700 is performing a safety anti-cycle delay prior to restating the Cooling.

Auto-change Over Mode - The SMT-700 thermostat will turn on the Heating if the room temperature falls below the Heat Set point temperature and the Cooling if the room temperature rises above the Cool Set point temperature by 0.5 deg Celsius. This is the recommended mode as it provides automatic control of the air conditioning system to maintain the desired room temperature. Auto changeover mode is indicated by both the words “Heat” & “Cool” in the LCD.
If the word “Heat” or “Cool” is flashing in the LCD the SMT-700 is performing a safety anti-cycle delay prior to restating the air conditioning system.

Fan Only. If Fan only is selected the SMT-700 thermostat will turn on the system fan for continuous operation. The SMT-700 thermostat will not control the heating or cooling system regardless of the room temperature and the heating and cooling set point temperature(s). If Fan only is chosen the words “Heat” or “Cool” are NOT shown in the LCD. In Fan only mode the fan will operate 100% of the time. Fan only mode is typically used for ventilation purposes.

Fan Control Logic

Fan management of an air conditioning system is vitally important to achieve maximum comfort and energy efficient operation. The fan of your air conditioning system is able to operate in two main modes, each mode is described below.

Auto Fan Mode

If the user has selected Auto Fan mode with the “FAN” button the indoor fan will turn on when the heating or cooling turns on, and off again once the heating or cooling turns off. To prevent cool drafts occurring when the heating first starts, the fan may delay starting momentarily to permit your air conditioning to pre warm. To conserve energy your fan may continue to run monetarily after the heating or cooling has stopped to extract all the warm or cool air still remaining in the air condition system and bring that conditioned air into the building.

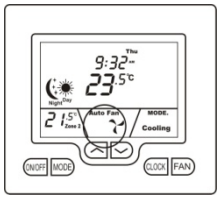
Fan On Mode

By selecting “Fan On” or continuous fan mode the SMT-700 thermostat indoor fan will operate continuously between the “Start” or “Wake” programs and the “Stop” or “Sleep” programs and then turn on and off as required with heating and cooling outside of those programmed events if your SMT-700 is set as a Programmable thermostat.

Please Note – Your installer may have activated some of the many advanced indoor fan management capabilities of the SMT-700 thermostat that work in partnership with the Fan On Mode. This may result in the fan operating differently than described above. If you find this to be the case and un-desirable, please contact your authorised Smart Temp service agent for advice on altering the function.

Fan Speeds

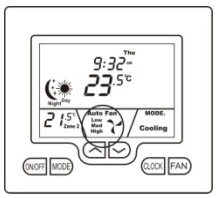
Single Fan Speed



If your air conditioning system has one fan speed, your SMT-700 thermostat will display the fan information shown on the picture to the left. The words “High”, “Med” or “Low” will be absent from the LCD.

Pressing the fan button with permit you to select either “Fan On mode” or “Auto Fan mode” as described above.

Three Fan Speed



If your air conditioning system is fitted with 3 fan speeds your SMT-700 thermostat will display the fan speeds as shown on the picture to the left.

Pressing the fan button will step the fan speed selection through “Low”, then “Med(ium)”, then “High” and finally Auto fan speed, (indicated by all three fan speeds being shown on the LCD). If auto fan speed has been selected the SMT-700 thermostat will indicate the automatically selected fan speed by flashing in appropriate word in the LCD.

Press and hold the Fan button for 3 seconds to toggle between Auto fan (where the fan turns on and off with heating and cooling) and Fan On, where the fan will run continuously most of the time (as set by the system installer).

If Auto Fan Speed has been selected, as indicated by all 3 fans speeds being shown on the LCD, your SMT-700 thermostat will automatically select the fan speed based on the difference between the room and set temperature.

Please Note: If zoning is enabled. To protect the Air Conditioning ducting and other components the installer may have selected the high fan speed to be locked out if only one zone is on.

Advanced Functions

Outdoor Air Temperature Display

The SMT-700 thermostat can be fitted with an optional outdoor air temperature sensor to display the current outdoor air temperature on the LCD. The outdoor air temperature is displayed in the lower left of the LCD along with the words “Outside Air Temperature”. If zoning is also enabled and the zone 2 sensor has been installed, the LCD will alternate between the Outside Air Temperature and Zone 2 temperature every 5 seconds.

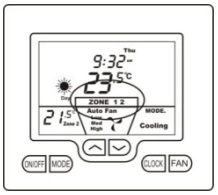
Outside Air Economy Function (If Fitted)

To further improve on the efficiency of your air conditioning system saving energy and money in running costs, your SMT-700 thermostat can use outside air for cooling if your air conditioning system has been designed and installed to take advantage of this advanced function. If cooling is required and the outside air is sufficiently cool enough your SMT-700 will draw in the cooler outside air into the building rather than use the warmer internal air. Again depending on the outside air temperature, your SMT-700 may or may not run the air conditioning system compressor.

If outside air is being used to assist in cooling, the word “Economy” will flash on the LCD.

Note, this function cannot be used in conjunction with the Zone Control Function.

Zone Control (if fitted)



If zoning is enabled the word "Zone" and either "1", "2," or "1 2" (indicating both zones) will be shown. To select which zone(s) you wish to be controlled, simply tap the On/Off button to toggle between zone 1, Zone 2 or both zones

If the optional Zone 2 Temperature sensor has been installed the second zone temperature will also be shown in the LCD.

Some homes or offices require temperature control in two separate areas, a living and sleeping zone or upstairs and downstairs for example. If your SMT-700 thermostat shows the word "ZONE" then the Zoning function is active on your SMT-700 thermostat. You may also have information on the temperature in the second zone (if the optional second zone temperature sensor has been installed).

If you have the Zoning function active on your SMT-700 thermostat and the zone 2-temperature sensor is installed then your desired temperature will be exactly maintained in both zones of your home or office.

The SMT-700 thermostat will automatically open and close "dampers" (motorised valves that regulate the flow of air in the ducting that carry the warmed or cooled air from the Air Conditioning system to the various areas of the home or office) as well as controlling the Air Conditioning system to ensure the correct air temperature is directed to the appropriate area of the home or office.

This capability not only vastly improves the comfort in the home or office (especially in two story buildings or difficult to temperature regulate arrears), it dramatically reduces the energy costs by only operating Air Conditioning system in the arrears (or zones) that require it. This function eliminates the over heating or over cooling effects of some air-conditioning controllers.

Note, this function cannot be used in conjunction with the Outside Air Economy Function.

Changing Active Zones.

Simply tapping the On/Off button while the SMT-700 thermostat is switched on will cycle the SMT-700 thermostat between Zone 1 only operation, Zone 2 only operating then both Zones operating. When the zone is calling for warmed or cooled air it is directed to that particular zone in order to maintain that zone(s) desired temperature. If the optional zone 2 temperature sensor has been installed then the temperature is also measured in zone 2 (and controlled to the set point) as well as the zone 2 temperature being displayed on the LCD.

Please note.
The SMT-700 thermostat will maintain a minimum of one open zone at all times. To protect the air conditioning system and ducting you cannot turn both zones off at the same time.

Key Board Lock / Function Lock

Many of the features or functions of the SMT-700 can be locked by the owner or installer to prevent un-authorised tampering. When any locked function is attempted to be accessed, your SMT-700 will flash the padlock symbol to inform you that the function is locked or a control limit has been reached.

Fan Speed Management

As briefly touched upon previously in this manual, fan speed management is a critical component of effective air conditioning control. The fan is directly responsible for the air movement through your air conditioning system and home/office and has a significant impact on how efficiently your air conditioning system operates. If Auto Fan speed has been selected your SMT-700 will automatically select the most appropriate fan speed based on the difference between room and set temperature.

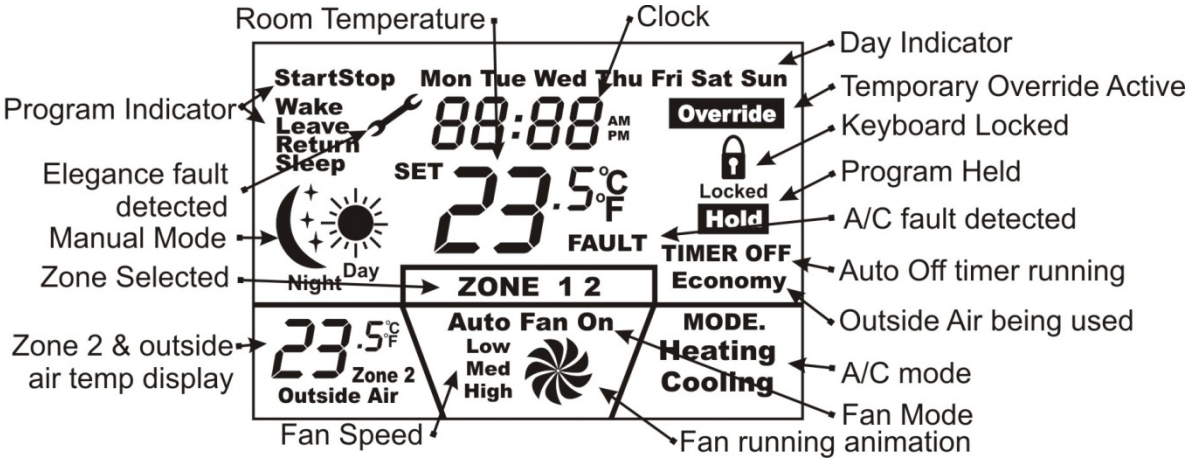
Optimised Start

Optimised Start mode permits the SMT-700 thermostat to automatically calculate the most optimum time to start your air conditioning system so that your programmed set point temperature is reached AT the program start time.

Your A/C system will therefore turn on before the scheduled event so that the set temperature is achieved at the scheduled event time, not after it.

Glossary

The LCD Explained



Program Event Indicator.
If "Wake", "Leave", "Return" or "Sleep" are shown, your SMT-700 thermostat is set as a programmable thermostat. This mode of operation is perfect for those that live a structured lifestyle. This is fully automatic mode where the residence occupier can pre program the home temperatures for 24 hours per day, 7 days per week. This is explained on page 4 of this manual.

2 Program Event Indicator.
Start / Stop or 2 event programming is typically used in commercial buildings where the Air conditioning is simply designed to turn on at a time (typically in the morning) maintain a single temperature all day then switch off at the end of the day (or maintain a more economical overnight temperature). The words highlighted on the LCD indicate this mode is set, and whether the Building A/C system is running. This function is described on page 7 of this manual.

Manual Mode Indicator.
The Sun or Moon symbol (or the lack of any programming information such as "Start"& "Stop", or "Wake" "Leave" "Return" & "Sleep") indicate the SMT-700 thermostat is in "Manual Mode". This mode is perfect for those who have a less structured lifestyle. Your SMT-700 thermostat may be set to provide two separate set points, offering a Day temperature and a separate Night temperature to be set, and easily swapped between the two as needed. Alternatively, a single heating and cooling set point may be provided. In this case the day & night symbols will not be shown. This function is described in more detail on page 10 of this manual.

Clock.
The clock displays the time. This time is used by the SMT-700 thermostat in program modes (2 or 4 events) to set the start/stop or program events. It is important that the clock is set correctly if the SMT-700 thermostat is used in a Programmable mode. The Clock is NOT used by the SMT-700 thermostat in manual mode – it simply displays the time. See programming on pages 5 & 8for details about setting the clock.

Day Indicator.
As with the clock described above, the SMT-700 thermostat relies on having the correct day set for its programming functions to be accurate. If using the programming functions the current day should be set correctly. See programming on pages 5 & 8 for details about setting the clock and day display.

Room / Set Temperature.
This portion of the LCD displays the current room temperature. (Note this temperature may or may not be measured at the location of the SMT-700 wall controller). In programming mode the current SET (or desired) room temperature is displayed in this location. The temperature is display in either degree Celsius or degrees Fahrenheit as set by the installer.

Outdoor / Zone Temperature.
This part of the display requires optional sensors to be installed to enable this function. Both the second control zone temperature and or outdoor temperature can be displayed. Information on zoning can be found on page 14, information on the outdoor temperature display can be found on page 13 of this manual.

System Mode Indicator.
This part of the LCD provides information on the Air Conditioning System control mode. The SMT-700 thermostat is capable of controlling heating only, cooling only or both heating and cooling systems together.
If heating only mode is selected the word "Heat" is displayed. If cooling only mode is selected the word "Cool" is displayed. Auto season changeover mode is indicated by the words " Heat & Cool".
If the SMT-700 thermostat requests the air conditioning to supply warmed air, the word "Heating" will be displayed. If the SMT-700 thermostat requests the air conditioning to supply cooled air, the word "Cooling" will be displayed.
If the Word "Heat" or "Cool" is slowly blinking the SMT-700 thermostat is waiting for an installer set safety delay time to expire before activating the function. This delay period is to protect the A/C system under the SMT-700 thermostat control.

Fan Running Animation.
A small animation of a fan revolving will be displayed whenever the air conditioning system fan is running. Note" all separate parts of the fan animation are shown in the picture on page 15. When the SMT-700 thermostat is running normally only the necessary parts of the LCD necessary to provide the fan running animation will be displayed.

Fan Speed Indicator.
The SMT-700 thermostat can control up to three speeds of indoor fan if the installer has enabled this function. The manually selected fan speed is shown. Auto fan speed is shown by the three words "Low", "Med" & "High" in the LCD at one time. The automatically selected fan speed will flash.

Fan Mode Indicator.
The SMT-700 thermostat can turn the indoor fan On & Off in a number of ways depending on whether the SMT-700 thermostat is used in commercial or residential buildings, or whether the SMT-700 thermostat is heating or cooling. This is displayed as "AUTO FAN" or "FAN ON" mode. Page 12 details these functions.

Keyboard Lock Indicator.
When this symbol is shown parts of the keyboard are locked or the temperature control range is limited preventing changes to the thermostat settings. When a button is locked or a control range is limited the Padlock symbol will flash to warn you that the current function is prohibited. The SMT-700 thermostat has multiple levels of keyboard lock for both manual and programmable modes. See page 14 of the manual for more information on this function.

Active Zone Indicator.
To aid in increasing comfort levels while reducing running costs, the SMT-700 thermostat employs industry-leading features. One of these features is the ability to "Zone" or split your heating and or cooling system into 2 separate temperature controlled areas, each can have their own temperature sensor (Optional Zone 2 sensor required). If zoning is enabled the Word "ZONE" and the numbers "1" and or "2" will be shown in the LCD. If the optional zone 2 temperature sensor has been installed the second zone temperature will also be displayed and temperature control for that zone is also provided. Further information on zoning can be found on page 14 of this manual.

Economy Mode Indictor.
If the outside air temperature is suitable, the SMT-700 thermostat will use the cooler outside air (rather than the warmer inside air) to supplement the cooling capacity of your Air Conditioning system. If the outside air is very cool, then the SMT-700 thermostat may decide to stop the A/C system completely and only use this cooler outside air to cool the building. This reduces running costs while improving the indoor air quality. The SMT-700 thermostat will inform you that it is using outside air by showing the word "Economy" on the LCD. See page 13 for more detail on this function.

Auto Stop timer. (Manual Mode only) After Hours Run Timer (Commercial Mode Only)
The word "Timer" will be displayed whenever a SMT-700 thermostat timer function is active. The SMT-700 thermostat has a number of inbuilt timer functions that use this part of the display depending on which mode or installer function has been set. Whenever the words "TIMER" or "TIMER OFF" is displayed the SMT-700 thermostat is performing a timing function relevant to your mode of operation. These functions are described in multiple places throughout this manual in sections relevant to the specific operational mode of this function.

Current Program Overridden.
The SMT-700 thermostat LCD will display this word when the SMT-700 thermostat pre set program has been temporarily overridden. See page 7 & 10 for more details of this function.

A/C Fault Indicator.
The SMT-700 thermostat is capable of monitoring the safety of your air conditioning system, or an external device critical to the safe and correct operation of your air conditioner. If a fault is detected all heating and cooling calls are suspended to further protect the air conditioning system and the indoor fan may be locked to LOW speed (Installer set function). The SMT-700 thermostat can be turned OFF if required by pressing and holding the On/Off button for 2 seconds. If this symbol frequently turns on and off regularly or is displayed permanently then you will need to contact your air conditioning installer to check your system and reset any faults that have been detected.

SMT-700 Thermostat Fault Indicator.
As well as monitoring the status of the air conditioning system, the SMT-700 thermostat also monitors its own health. The "Spanner" symbol will show on the LCD to inform you that an internal fault has been detected. When a fault is detected all heating and cooling calls are suspended to protect the system from harm and to prevent run away heating or cooling conditions occurring. The indoor fan is locked to LOW speed to maintain a minimum level of ventilation during this fault condition. Depending on the fault you may or may not be able to turn your SMT-700 thermostat OFF with the On/Off Button. If this symbol is displayed on and off regularly or is displayed permanently you will need to contact your Air Conditioning installer to check your system and reset any faults that may have developed.

Troubleshooting

Symptom	Suspected Fault	Suggested remedy
Spanner symbol on in LCD	Internal SMT-700 thermostat Fault detected. Communication loss between main PCB and wall controller should be strongly suspected.	Re-boot Elegance by turning the MAIN PCB off (not the wall controller) – if fault persists Call Smart Temp service
Word "FAULT" shown on LCD	A/C fault detected	Call A/C system service
Temperature display seems inaccurate	Air from the wall cavity may be leaking into the rear of the thermostat / sensor enclosure.	Plug holes in wall with tape to prevent leaks
	External heat or cool source such as lamps, televisions or drafts from open doors affecting the accuracy of sensor.	Move lamps, vents or other sources of abnormal temperature away from sensors
	Sensor calibration may setting are incorrect	Call Smart Temp service for information on calibrating the air temperature sensor
Cannot enter heat or cool modes	SMT-700 thermostat set for Heating or Cooling only modes	Heating or cooling mode may not be available on your air conditioning system.
Fan sometimes stops and starts intermittently while heating is running	This may not be a fault. You air conditioning system may be running a de-ice maintenance function. The indoor fan is turned off during these events to prevent drafts being felt inside the building	If this occurs to often, an air conditioning fault may have occurred. Contact Smart Temp for information on this event
Fan speed changes frequently	This may not be a fault	Your SMT-700 is choosing the most energy efficient fan speed for the current conditions. Try selecting a speed manually with the fan button.
Fan On mode keeps the fan running 24 hours a day when in program mode, or the fan stops shortly after heating stops.	This is not a fault.	Your SMT-700 advanced fan management program has been customised by your installer to operate this way.
Wall controller has no display	Check air conditioning main fuse	Reset home A/C fuse Call Smart Temp service
	Faulty Wiring, fuse or SMT-700	Call Smart Temp service
Heating, Cooling or Air Conditioning System seems to runs all night.	Heating and or cooling temperatures set for typical day time or unachievable temperatures.	Set a lower heat temperature and/or a higher cooling temperature. Review manual on setting temperatures
	Fan set to Fan ON mode	Change fan mode to Auto. See page 12
Heating or cooling system seems to start before the scheduled start time	Optimised Start function may be on. This is an installer set function. See optimised start on page 14 above	Call Smart Temp service for information on turning this function off if required.
Some buttons do not appear to operate	Key board lock is on. See page 14 for more information on this function.	This is not a fault. Buttons or functions may be locked to prevent unauthorised tampering

Specifications

Input Voltage	24VAC / 240VAC (fused) selectable
Operating Temperature	0-50C (32 to 122F)
Operating RH	0-95% (non condensing)
Size	113 x 103 x 23mm
Display Size	74 x 55mm
Temp Sensors	10K NTC type 3
Accuracy	+/- 0.3deg C @ 21 C
Display resolution	0.1 deg C
Control Range	Off to 38c
Outside Air temp display range	-8 ~ +60c
Back light	Blue EL
Optimised Start method	Time to Start Vs Temp Differential method
Communications Protocol	Native RS485 - 150M max run with 4 core screened cable.
Warm Start	Fan Coil >33c.
Heat run on	Fan coil <27c.
De-Ice	Fan coil < 21c (installer adjustable)
Fan speeds	Based on difference between room and set temp
Economy function	Outside air cooler >2.5c dampers only >5c suspend comp call
Approvals	CE, C-tick

Warranty Information

This product is warranted to be free from manufacturing defects for 24months from the date of sale. Should a warranty claim be required contact Smart Temp Australia or place of purchase for a return authorisation number prior to returning any suspected faulty components.

Warranty is strictly return to base – cost of freight back to Smart Temp will be the responsibility of the sender. Smart Temp (or approved agent) will repair or replace the faulty item(s) at our discretion. Faults not warrantable will be charged a service fee.

Exclusions

This warranty does not include incidental or consequential damage that may result from using this equipment. Nor does this warranty cover abuse, rain or moisture damage or using this equipment outside of the quoted specifications.